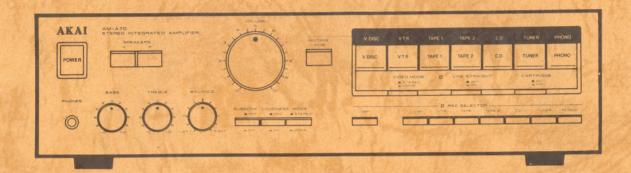
AKAI SERVICE MANUAL



STEREO INTEGRATED AMPLIFIER

MODEL AM-A70

ABBREVIATIONS FOR SERVICE MANUAL MODEL AM-A70

ABBREVIATIONS	EXPLANATION
AC	Alternating Current
AMP	AMPlifier
CD	Compact Disc
DC	Direct Current
GND	GrouND
MC	Moving Coil
MM	Moving Magnet
PCB	Printed Circuit Board
REC	RECord
SW	SWitch
V.DISC	Video DISC
VR	Variable Resistance
VTR	Video Tape Recorder

SAFETY CHECK AFTER SERVICING

Confirm the specified insulation resistance between power cord plug prongs and externally exposed parts of the set is greater than 10 Mohms, but for equipment with external antenna terminals (tuner, receiver, etc.) and is intended for C or A, specified insulation resistance should be more than 2.2 Mohms (ground terminals, microphone jacks, headphone jacks, line-in-out jacks etc.)

PRECAUTIONS DURING SERVICING

- 1. Parts identified by the A symbol parts are critical for safety.
- In addition to safety, other parts and assemblies are specified for conformance with such regulations as those
 applying to spurious radiation. These must also be replaced only with specified replacements.

xamples: RF .converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise



ANDINITY TRANSPORT OF THE PRODUCT AND AND THE STATE OF THE PROPERTY OF THE PRO

7. Check that replaced wires do not contact sharp edged or point

8. Also check areas surrounding repaired locations

Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set,

VOLTAGE CONVERSION

Models for Canada, USA, Europe, UK and Australia are not equipped with this facility. Each machine is preset

STEREO INTEGRATED AMPLIFIER

Before connecting the power cord, turo 7 A-I MALECTOR located on the rear panel with a screwdriver countril the correct voltage is indicated.

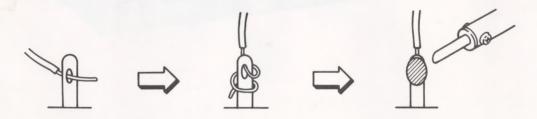
SAFETY INSTRUCTIONS

SAFETY CHECK AFTER SERVICING

Confirm the specified insulation resistance between power cord plug prongs and externally exposed parts of the set is greater than 10 Mohms, but for equipment with external antenna terminals (tuner, receiver, etc.) and is intended for \boxed{C} or \boxed{A} , specified insulation resistance should be more than 2.2 Mohms (ground terminals, microphone jacks, headphone jacks. line-in-out jacks etc.)

PRECAUTIONS DURING SERVICING

- Parts identified by the
 <u>↑</u> symbol parts are critical for safety.
 Replace only with parts number specified.
- 2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation. These must also be replaced only with specified replacements.
 - Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
- 3. Use specified internal wiring. Note especially:
 - 1) Wires covered with PVC tubing
 - 2) Double insulated wires
 - 3) High voltage leads
- 4. Use specified insulating materials for hazardous live parts. Note especially:
 - 1) Insulation Tape
 - 2) PVC tubing
 - 3) Spacers (Insulating Barriers)
 - 4) Insulation sheets for transistors
 - 5) Plastic screws for fixing microswitch (especially in turntable)
- 5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.

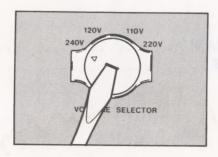


- 6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).
- 7. Check that replaced wires do not contact sharp edged or pointed parts.
- 8. Also check areas surrounding repaired locations.
- 9. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

VOLTAGE CONVERSION

Models for Canada, USA, Europe, UK and Australia are not equipped with this facility. Each machine is preset at the factory according to destination, but some machines can be set to 110V, 120V, 220V, or 240V as required. If your machine's can be converted:

Before connecting the power cord, turn the VOLTAGE SELECTOR located on the rear panel with a screwdriver until the correct voltage is indicated.



POWER AMPLIFIER SECTION

RATED POWER OUTPUT

20Hz to 20kHz

20Hz to 20kHz

20Hz to 20kHz

100W 0.5% 150W/0.7%

100

SECTION 1

SERVICE MANUAL

I. SPECIFICATIONS. 4 II. DISMANTLING OF UNIT 5 III. CONTROLS 6 IV. PRINCIPAL PARTS LOCATION 7 V. ADJUSTMENTS 8 1. EQ AMP DC BALANCE ADJUSTMENT 8 2. IDLING CURRENT ADJUSTMENT 8 VI. PC BOARD TITLE AND IDENTIFICATIONS 9 For basic adjustments, measuring methods, and operating principles, refer to GENERAL TECHNICAL MANUAL. For basic adjustments, measuring methods, and operating principles, refer to GENERAL TECHNICAL MANUAL. GREEN SHOOL OF SHOO

I. SPECIFICATIONS

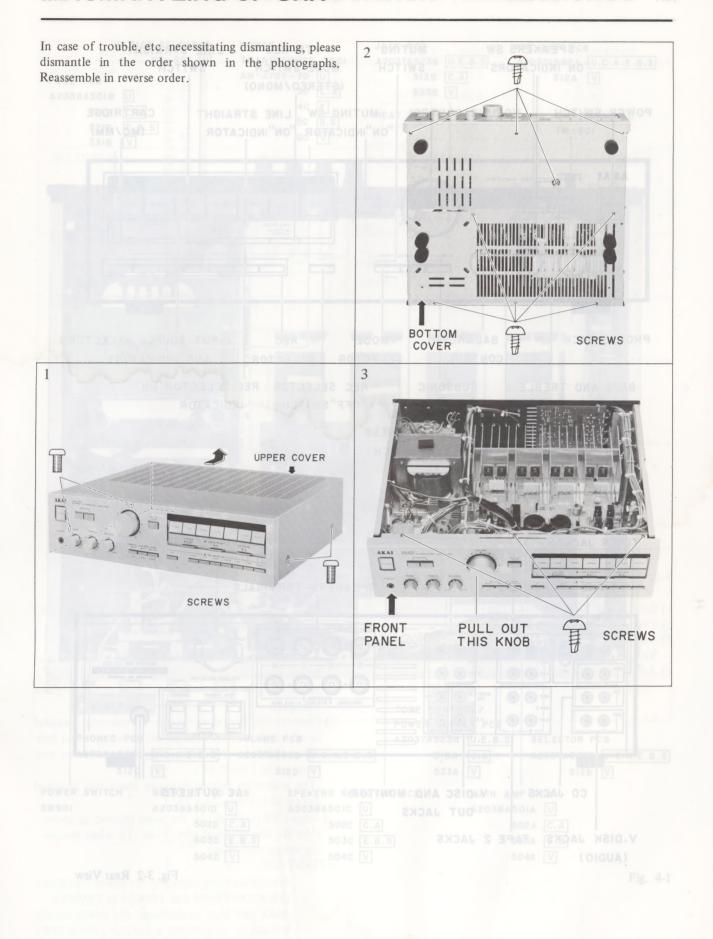
POWER AMPLIFIER SECTION RATED POWER OUTPUT	8 ohms 4 ohms
20Hz to 20kHz	100W/0.5% 150W/0.7%
POWER OUTPUT (by FTC) 20Hz to 20kHz	100W/0.5% 150W/0.7%
DIN 1kHz	110W/0.7%
POWER BANDWIDTH (IHF -3dB, 8 ohms)	10Hz to 80kHz (1.0%)
S/N (IHF-A)	(10/0)
PHONO (MM)	86dB
PHONO (MC)	67dB
CD/AUX	100dB
RESIDUAL NOISE (8 ohms)	0.5mV
CHANNEL SEPARATION (IHF, 1kHz)	60dB
DAMPING FACTOR (1kHz, 8 ohms)	30
REQUIRED SPEAKER IMPEDANCE	it as selectes assistes RF cables, noise blocking suscention, noise
FOR USA, CANADA and EUROPE	the section sections, at the section, these sections, the
(EXCEPT UK and FRG)	A or B: 6 to 16 ohms
11. Wires arrayad with PMC tobles	A and B: 12 to 16 ohms
FOR UK, FRG, AUSTRALIA and	
OTHER COUNTRIES	A or B: 4 to 16 ohms
	A and B: 8 to 16 ohms
1) Insulation Taxa	
PRE AMPLIFIER SECTION	
VIDEO SECTION	
INPUT SENSITIVITY/IMPEDANCE	AND THE PARTY OF T
VTR	1Vp-p/75 ohms
V. DISC	1Vp-p/75 ohms
OUTPUT LEVEL/IMPEDANCE	1Vp-p/75 ohms
AUDIO SECTION	II DISMANTI INC OF UNIT
INPUT SENSITIVITY/IMPEDANCE	III. CONTROLS 11.
PHONO (MC)	0.2 mV / 100 ohms
PHONO (MM)	2.0mV/47k ohms
CD/AUX	150mV/47k ohms
TUNER	150mV/47k ohms
TAPE	150mV/47k ohms
VTR (AUDIO)	150mV/47k ohms
V. DISC (AUDIO)	150mV/47k ohms
OUTPUT LEVEL/IMPEDANCE	
TAPE REC	150mV/1k ohms
FREQUENCY RESPONSE	are adoed or pointed parts
PHONO (RIAA DEVIATION)	±0.2dB
TUNER, CD/AUX, TAPE	5Hz to 100kHz (-3dB)
TONE CONTROL	
BASS	±8dB
TREBLE	±8dB
SUBSONIC FILTER	-3dB (at 18Hz)
PHONO MAX. INPUT LEVEL	in a machines can be set to 110V, 120V, 320V, or 340V as required.
	25mV
MC your machine's can be converted	23111 V
MC MM muchines can be converted to MM one connection the power cont. The the	250mV
MM	250mV
MM	250mV 120V, 60Hz for USA & Canada
MM	250mV 120V, 60Hz for USA & Canada 220V, 50Hz for Europe except UK
MM	250mV 120V, 60Hz for USA & Canada 220V, 50Hz for Europe except UK 240V, 50Hz for UK & Australia
MM	250mV 120V, 60Hz for USA & Canada 220V, 50Hz for Europe except UK 240V, 50Hz for UK & Australia 110V/120V/220V/240V, 50Hz/60Hz convertible for other cour
MM POWER REQUIREMENTS	250mV 120V, 60Hz for USA & Canada 220V, 50Hz for Europe except UK 240V, 50Hz for UK & Australia 110V/120V/220V/240V, 50Hz/60Hz convertible for other countries
MM	250mV 120V, 60Hz for USA & Canada 220V, 50Hz for Europe except UK 240V, 50Hz for UK & Australia 110V/120V/220V/240V, 50Hz/60Hz convertible for other coun

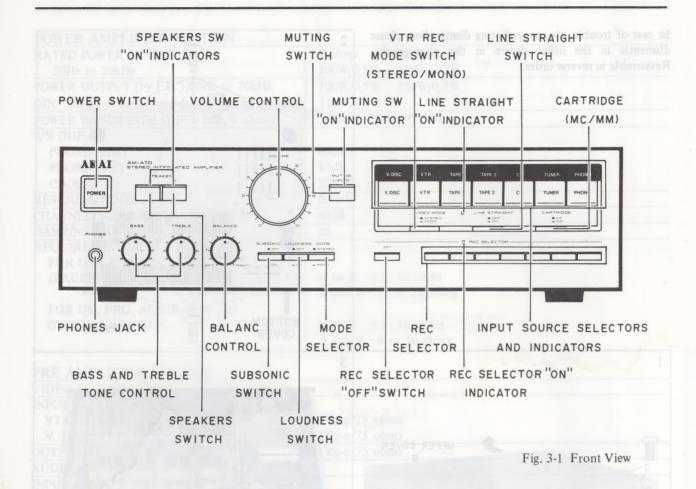
^{*} For imprvement pruposes, specifications and design are subject to change without notice.

11.5kg (25.4 lbs)

WEIGHT

II.DISMANTLING OF UNIT





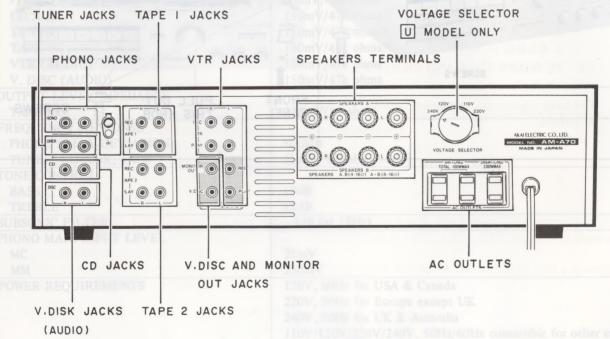
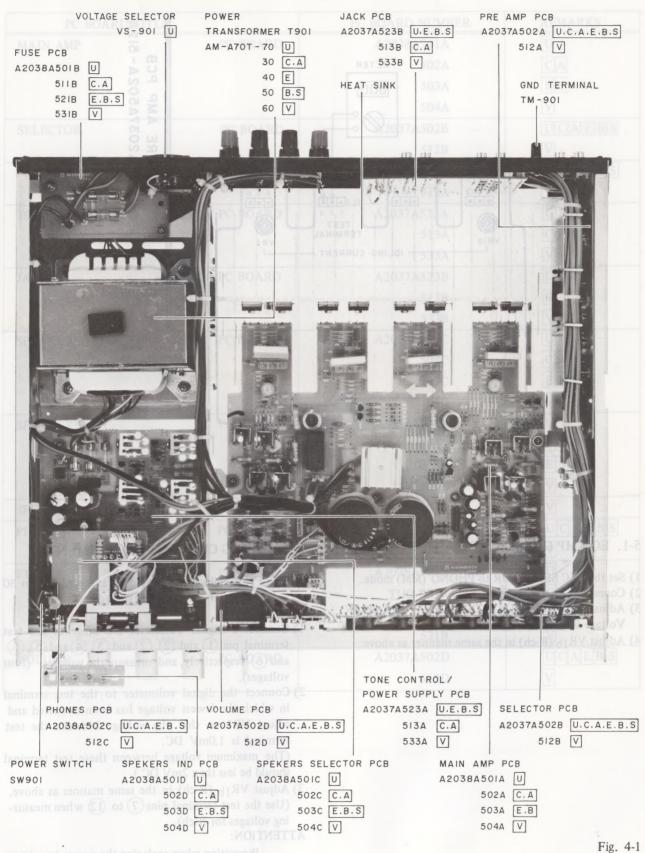
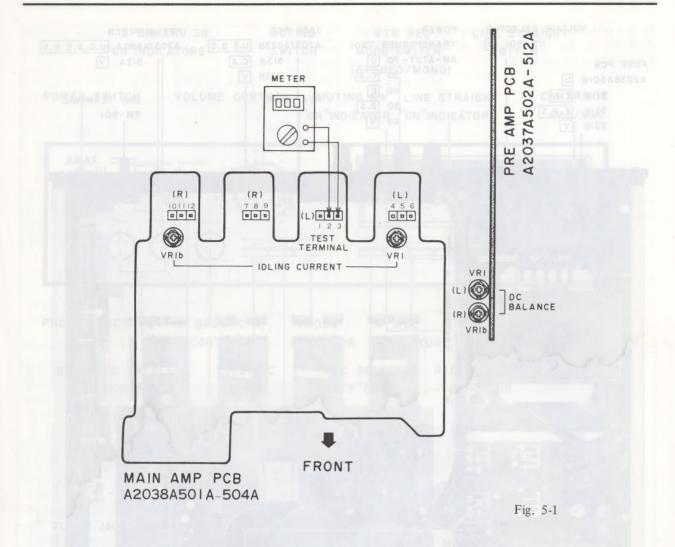


Fig. 3-2 Rear View

IV. PRINCIPAL PARTS LOCATION





5-1. EQ AMP DC BALANCE ADJUSTMENT

- 1) Set the REC SELECTOR to PHONO (MM) mode.
- 2) Connect an Oscilloscope to TAPE REC OUT.
- 3) Adjust VR1 (on EQUALIZER PCB) so that the DC Voltage is less than 1mV DC.
- 4) Adjust VR_{1b} (R-ch) in the same manner as above.

5-2. IDLING CURRENT ADJUSTMENT

NOTE: This adjustment should be executed within 30 sec. after the power is turned on.

- 1) Connect a Digital Voltmeter DC range to the test terminal pin 1 and 2, 2 and 3, 4 and 5, 5 and 6 respectively, and measure the voltages (four voltages).
- Connect the digital voltmeter to the test terminal in which the lowest voltage has been measured and adjust VR1 so that the voltage between the test terminal is 1.0mV DC.
 - (The maximum voltage between these test terminal should be less than 2mV DC.)
- 3) Adjust VR_{1b} (R-ch) in the same manner as above. (Use the test terminal pins 7 to 12 when measuring voltages for R-ch).

ATTENTION:

Precaution when replacing the power transistors (TR902 to TR905 and TR902b to TR905b). Make sure that to discharge the power supply voltage by connecting a resistor ($100\Omega/10W$) between C13 pins (+ and –) and also between C12 pins (+ and –) after turn off the power for the safety and the protection of the transistors.

VI. PC BOARD TITLE AND IDENTIFICATIONS

PC BOARD TITLE		PC BOARD NUMBER	REMARKS
MAIN AMP	PC BOARD	A2038A501A	U
		502A	$\mathbb{C}[A]$
		503A	EB
		504A	V
SELECTOR	PC BOARD	A2037A502B	UCAEBS
		512B	V
PRE AMP	PC BOARD	A2037A502A	UCAEBS
		512A	V
TONE CONTROL/POWER SU	PPLY PC BOARD	A2037A523A	UEBS
		513A	$\mathbf{C} \mathbf{A}$
		533A	V
JACK	PC BOARD	A2037A523B	UEBS
		513B	CA
		533B	V
SPEAKERS SELECTOR	PC BOARD	A2038A501C	U
		502C	CA
		503C	EBS
		504C	V
SPEAKERS IND	PC BOARD	A2038A501D	U
		502 D	C A
		503D	EBS
		504D	V
SPEAKERS TERMINAL	PC BOARD	A2018D5070	V
PHONES	PC BOARD	A2038A502C	UCAEBS
		512C	V
FUSE	PC BOARD	A2038A501B	U
		511B	CA
		521 B	EBS
		531B	V
VOLUME	PC BOARD	A2037A502D	UCAEBS
		512D	V

SECTION 2

PARTS LIST

TABLE OF CONTENTS

RECOMMENDED SPARE PARTS	
1. PC BOARD BLOCK	
2. PRE AMP PC BOARD	
3. TONE CONTROL/POWER SUPPLY PC BOARD	
4. MAIN AMP PC BOARD	
5. JACK PC BOARD	16
6. SELECTOR PC BOARD	16
7. SPEAKER SLECTOR PC BOARD	
8. SPEAKER IND PC BOARD	
9. VOLUME PC BOARD	
10. HEAD PHONE PC BOARD	16
11. SPEAKER TERMINAL PC BOARD (V ONLY)	
12. FUSE PC BOARD	16
13. ASSEMBLY BLOCK	16
14. FINAL ASSEMBLY BLOCK	
15 INDEX	

Resistor and Capacitor which is not listed in this parts list, please refer to COMMON LIST FOR SERVICE PARTS.

ATTENTION

- 1. When placing an order for parts, be sure to list the parts no. model no., and description of each part. If any of this information is omitted, there are instances in which parts cannot be shipped or the wrong parts will be delivered.
- 2. Please be careful not to make a mistake in the parts no. If the parts no. is in error, a part different from the one ordered may be delivered.
- 3. Because part numbers and part definitions and supply in the Preliminary Parts List may have been the subject of changes, please use this parts list for all future reference.

HOW TO USE THIS PARTS LIST

- 1. This Parts List shows those parts which are considered necessary for repairs. Other parts, such as resistors and capacitors, are shown in the "Common List for Service Parts" from which these parts should be selected and parts.
- 2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
- 3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
- 4. How to read the parts list
 - a) Mechanism Block

b) P.C Board Block

2. HEAD BASE BLOCK

6. SYS. CON. P C BOARD BLOCK

2-1x BH-12023A320A HEAD BASE BLOCK GATOOK 2-2 HP-H2206A010A HEAD R/P PR4-8FU C 4-IC1 EI-324536 IC HD14049BP 2-3 ZS-477876 PAN20×03STL CMT 4-IC2 EI-336801 IC MB8841-564M	DESCRIPTION	PART NO.	REF. NO.	PART NO. DESCRIPTION	REF.
2-5 CS ANGLE ADJUST SPRING 6-IC4 EI-336725 IC M54527P 6-TR1to4 ET-200985 TR 2SC2603 F,G TR 2SA733A P,Q 6-D1 ED-318292 D SILICON H 1S2473T-77 Show that particular part in the Photo or Illustration. 6-EX1 EI-318384 OSC X*TAL NC-18C	IC HD14049BP IC MB8841-564M IC SN7405N IC M54527P TR 2SC2603 F,G TR 2SA733A P,Q D SILICON H 152473T-77 T26 D GERMA V 1K34A-LR F07 D SILICON H 152473T-77 T26 OSC X'TAL NC-18C 3.579545MHZ rvice Parts) Classification reference symbols correspond with onent symbols in the Schematic	EI-324536 EI-336801 EI-331661 EI-336725 ET-200985 ET-554657 ED-318292 ED-308952 ED-318292 EI-318384 SP (Service	6-1 6-IC1 6-IC2 6-IC3 6-IC4 6-TR1to4 6-TR5to28 6-D1 6-D2to4 6-D5to10	BH-T2023A320A HEAD BASE BLOCK GX-F66R HP-H2206A010A HEAD R/P PR4-8FU C ZS-477876 PAN20×03STL CMT ZS-536488 BID20×08STL CMT ZG-402895 CS ANGLE ADJUST SPRING SP (Service Parts) Classification A small "x" indicates the inability to show that particular part in the Photo or Illustration. This number corresponds with the individual parts index number in that figure —This number corresponds with the Figure	2-1x 2-2 2-3 2-4

5. The kind of part and its installation position can both be determined by the Part Number. To determine where a part number is listed, utilize the Parts Index at the end of the Parts List. It is necessary first of all to find the Part Number. This can be accomplished by using the Reference Number listed at the right of the part number in the Parts Index.

WARNING

△ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS

AVERTISSEMENT

A IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÉCES RECOMMANDEES PAR LÉ FABRICANT

RECOMMENDED SPARE PARTS

Because, if the parts listed below are on hand, almost any repair can be accomplished, we suggest that you stock these Recommended Spare Parts Items.

```
REF. PART NO. DESCRIPTION
NO.
 1 N BT-355409 A TRANS POWER AM-A70T-30 (C,A)
 3 N
    BT-355412
              △ TRANS POWER AM-A70T-50 (B,S)
 4N BT-361998 A TRANS POWER AM-A70T-60 (V)
 5 N
    BT-355408 A TRANS POWER AM-A70T-70 (U)
 6 N ED-355425 D LED BG-5725-B7- GREEN
    ED-356424 D LED BG5525S GREEN
 7
 8
     ED-354114 D LED BR5507S RED
 9 N ED-355426 D LED PR-5705S-B7 RED
     ED-345555 D SILICON DBB10C 200/1.0A
10
     ED-348990 D SILICON H DS446
11
     ED-301911 D SILICON H DS448
12
13 N ED-355437 D SILICON PB-102F
    ED-348786 D SILICON RB154 400/1.5A
14
     ED-310387 D ZNEER H HZ12 B2
15
     ED-328486 D ZENER H HZ15 3
16
     ED-315759 D ZENER H HZ16 1
17
     ED-324013 D ZENER H HZ20 2
18
     ED-332336 D ZENER H HZ20 3
10
    ED-329051 D ZENER H HZ24 3
20
    ED-346619 D ZENER H HZ27 1
21
22
     ED-346603 D ZENER H HZ6 A1
23 N EF-355226 A FUSE BET T 1.00A 250V [B]
26
     EF-309392 A FUSE TSC 125V 1.25A [C,A]
27
    EF-345658 A FUSE TSC 125V 8.00A [C,A]
28
     29
30
     EI-355697
              ⚠ IC M5221P
     EI-344764
              IC M5218P-21
31
              PL LEAD 14.3V 80 MA
32 N EL-355435
33 N EQ-359532 ⚠ RELAY POWER G5R2282P DC12V
34 N EQ-355458 ⚠ RELAY SIG G2Q-187P-V 12V
     EQ-348929 A RELAY SIG G5A-232P 2TR 12V
35
     ER-345616 AR CT W R33+R33 5W
37 N ES-355407
              △ SW PUSH ESB-99713V TV-8
              △ SW PUSH SPEA12089A 04-2N
    ES-345481
38
              ⚠ SW SELECTOR YKS11-0002 02-4 [U]
     ES-349070
39
    ES-348841
              SW PUSH SPEA12090A 04-2S
40
41 N ES-355417
              SW PUSH SPEA71 7 THROW
              SW PUSH SPEA84 8 THROW
42 N ES-355418
              SW PUSH SPUJ34
    ES-355429
43
              SW PUSH SPUL241
44 N ES-355433
45
    ET-348856
              ⚠ TR 2SA1106 O,Y
    ET-348857 A TR 2SC2581 O,Y
              ⚠ TR 2SD1247 T,U
     ET-355782
48 N ET-360750
              TR FET 2SJ74 BL
              TR FET 2SK117 GR,BL
    ET-321016
49
              TR FET 2SK170 BL
50 N ET-360749
              TR FET 2SK246 BL
51 N ET-359827
52
    ET-337759
              TR FET 2SK246 GR
    ET-348829
              TR 2SA1209 S.T
              TR 2SA1220 Q,P
54
    ET-348834
55
    ET-345626 TR 2SA1248 S,T
    ET-355626
              TR 2SA992 E,F
56
              TR 2SC1845 E,F
57
    ET-347143
              TR 2SC2603 G
58
    ET-308141
    ET-348835
              TR 2SC2690 O.P
59
    ET-348830 TR 2SC2909 S,T
60
    ET-348831
              TR 2SC2911 S,T
61
    ET-345625 TR 2SC3116 S,T
62
    ET-349081 TR 2SC3383 S.T
63
    ET-310148 TR 2SD612K E.F
64
     EV-380204 R S-FIX H SR19R 3P 0.15W 102
     EV-338118 R S-FIX V H1052A 3P 0.15W 104
66
67 N EV-355456 VR ROTARY RKDA10 105
68 N EV-355457 VR ROTARY RKDA2S 100KCX2
```

REF. PART NO. DESCRIPTION

69 N EV-355466 VR ROTARY RKDA20 100KCX2 70 N EV-355427 VR ROTARY RKGA20-250KBX2

"NOTE" N: New Parts

SYMBOL FOR DESTINATION

[A] : AAL (USA)
[B] : UK (ENGLAND)
[C] : CSA (CANADA)
[E] : CEE (EUROPE)

[S] : SAA (AUSTRALIA) [U] : U/T (UNIVERSAL AREA)

[V] : VDE (WEST GERMANY)

1. PC BOARD BLOCK

REF. NO.	PART NO.	DESCRIPTION
1-1A	BA-A2037A020A	PC PRE BLK AM-A90 (U,C,A,E,B,S)
1-1B	BA-A2037A020B	PC PRE BLK AM-A90 (V)
1-2A	BA-A2037A040C	PC TONE BLK AM-A70 (U,E,B,S)
1-2B	BA-A2037A040F	PC TONE BLK AM-A70 (C,A)
1-2C	BA-A2037A040D	PC TONE BLK AM-A70 (V)
1-3A	BA-A2038A030A	PC MAIN BLK AM-A70 (U)
1-3B	BA-A2038A030B	PC MAIN BLK AM-A70 (C,A)
1-3C	BA-A2038A030C	PC MAIN BLK AM-A70 (E,B,S)
1.3D	BA-A2038A030D	PC MAIN BLK AM-A70 (V)

NOTE

- (1) PC PRE BLK cnosists of following PC BOARDS.
 - PRE AMP PC BOARD
 - · SELECTOR PC BOARD
 - VOLUME PC BOARD
 - HEAD PHONE PC BOARD
- (2) PC TONE BLK consists of following PC BOARDS.
 TONE CONTROL/POWER SUPPLY PC BOARD
 JACK PC BOARD
- (3) PC MAIN BLK consists of following PC BOARDS.
 - MAIN AMP PC BOARD
 - · SPEAKER SELECTOR PC BOARD
 - SPEAKER IND PC BOARD
 - FUSE PC BOARD

2. PRE AMP PC BOARD

REF. NO.	PART NO.	DESCRIPTION
2-IC1	EI-355697	IC M5221P
2-TR1	ET-360749	TR FET 2SK170 BL
2-TR1 2-TR2	ET-360750	TR FET 2SJ74 BL
	ET-345625	↑ TR 2SC3116 S,T
2-TR3		↑ TR 2SA1248 S,T
2-TR4	ET-345626 ET-355626	TR 2SA922 E,F
2-TR5		TR 2SC1845 E,F
2-TR6	ET-347143	TR 2SA1220 Q,P
2-T R7	ET-348834	TR 2SC2690 Q,P
2-TR8	ET-348835	TR 2SC2911 S,T
2-TR9	ET-348831	
2-TR10	ET-348829	TR 2SA1209 S,T D ZENER H HZ15 3
2-D2	ED-328486	
2-D3	ED-328486	D ZENER H HZ15 3 D SILICON H DS446
2-D4	ED-348990	D SILICON H DS446
2-D5	ED-348990	
2-D6	ED-348990	D SILICON H DS446 D SILICON H DS446
2-D7	ED-348990	
2-VR1	EV-338118	R S-FIX V H1052A 3P 0.15W 104
2-L1	EO-337684	COIL FIX 2 FL12R571E 751K [V]
2-RL1	EQ-348929	RELAY SIG G5A-232P 2TR 12V
2-R1	ER-311766	R MF H 1/4W 4702F
2-R5	RE-359825	A R OMF H S20 FS 2W 621J
2-R8	ER-359825	A R OMF H S20 FS 2W 621J
2-R27	ER-359508	R MF H 1/4W 5103G
2-R28	ER-359509	R MF H 1/4W 4703G
2-R29	ER-359510	R MF H 1/4W 5602G
2-R 30	ER-359511	R MF H 1/4W 3302G
2-R 31	ER-359512	R MF H 1/4W 5102G
2-R 32	ER-359513	R MF H 1/4W 4702 G
2-R33	ER-359514	R MF H 1/4W 5601G R MF H 1/4W 3301G
2-R 34	ER-359516	⚠ R OMF H S20 FS 2W 362J
2-R43	ER-359524	⚠ R OMF H S20 FS 2W 362J
2-R46	ER-359524 ER-33\$187	R MF H 1/4W 153J
2-R47		R MF H 1/4W 153J
2-R48 2-C1A	ER-338187 EC-349083	⚠ C STY V CUT CQ09S2B 101J 125DC
2-C1A	EC-349063	[EXCEPT V]
2-C1B	EC-350675	C STY V CUT CQ09S2B 331J 125DC [V]
2-C1B	EC-350745	⚠ C STY V CUT CQ09S2B 102J 125DC
2-C2 2-C3	EC-355434	⚠ C MY V MKT 105K 100DC
2-C3 2-C4	EC-333434 EC-343892	△ C PP V F05 FPS 1302G 100DC
2-C4 2-C5	EC-343892 EC-359530	C PP V F05 PP 3601G 50DC
2-C5 2-C6	EC-359530 EC-343917	△ C PP V F07 FPS 1303G 100DC
		C PP V F07 FPS 1303G 100DC C PP V F05 PP 3602G 50DC
2-C7	EC-359531 EC-345656	C PP V F05 PP 473J 50DC
2-C8		PIN J AJC-052-ABB P 6P
2-J1	EJ-337404 EJ-337424	PIN J AJC-032-ABB P 6P PIN J AJC-034-ABB P 2P
2-J2	E3-33/424	TIN J AJC-U34-ADD F 2F

3. TONE CONTROL/POWER SUPPLY

PC BOARD

REF. NO.	PART NO.	DESCRIPTION
	TONE GOVE	THE STATE OF THE S
		TROL/POWER SUPPLY PC BOARD
3-IC1	EI-344764	IC M5218P-21
3-TR1	ET-337759	TR FET 2SK246 GR
3-TR2	ET-337759	TR FET 2SK246 GR
3-TR3	ET-345625	⚠ TR 2SC3116 S,T
3-TR4	ET-345626	⚠ TR 2SA1248 S,T
3-TR5	ET-337759	TR FET 2SK246 GR
3-TR6	ET-337759	TR FET 2SK246 GR
3-TR7	ET-345625	↑ TR 2SC3116 S,T
3-TR8	ET-345626	↑ TR 2SA1248 S,T
3-TR9	ET-310148	↑ TR 2SD612K E,F
3-TR10	ET-359827	TR FET 2SK246 BL
3-D1	ED-348786	⚠ D SILICON RB154 400/1.5A
3-D2	ED-346619	⚠ D ZENER H HZ27 1
3-D3	ED-346619	⚠ D ZENER H HZ27 1
3-D4	ED-346619	⚠ D ZENER H HZ27 1
3-D5	ED-346619	⚠ D ZENER H HZ27 1
3-D6	ED-315759	⚠ D ZENER H HZ161
3-D7	ED-315759	⚠ D ZENER H HZ16 1
3-D8	ED-329051	⚠ D ZENER H HZ24 3
3-D9	ED-329051	⚠ D ZENER H HZ24 3
3-D10	ED-329051	⚠ D ZENER H HZ24 3
3-D11	ED-329051	⚠ D ZENER H HZ24 3
3-D12	ED-345555	⚠ D SILICON DBB10C 200/1.0A
3-D13	ED-310387	⚠ D ZENER H HZ12 B2
3-D14	ED-332336	⚠ D ZENER H HZ20 3
3-VR1	EV-355456	VR ROTARY RKDA10 105
3-VR2	EV-355457	VR ROTARY RKDA2S 100KCX2
3-VR3	EV-355466	VR ROTARY RKDA20 100KCX2
3-R18	ER-324184	⚠ R CB H S10 FS RDS 1/4W 121J
3-R19	ER-359823	⚠ R MF H 1/4W 203J
3-R20	ER-359823	R MF H 1/4W 203J
3-R21	ER-324184	⚠ R CB H S10 FS RDS 1/4W 121J
3-R22	ER-359826	⚠ R OMF H S20 FS 2W 302J
3-R23	ER-359826	⚠ R OMF H S20 FS 2W 302J
3-R24	ER-324184	⚠ R CB H S10 FS RDS 1/4W 121J
3-R25	ER-311766	R MF H 1/4W 4702F
3-R26		R MF H 1/4W 473J
3-R27	ER-324184	△ R CB H S10 FS RDS 1/4W 121J
3-R29	ER-324184	△ R CB H S10 FS RDZ 1/4W 121J
3-R 30	ER-359824	⚠ R OMF H S20 FS 2W 822J
3-C8	EC-201639	C EC V CUT SM 331M 80DC
3-C9	EC-201639	C EC V CUT SM 331M 80DC
5 07	201007	
	ASSEMBLY	BLOCK
3-F3A	EF-309392	⚠ FUSE TSC 125V 1.25A [C,A]
3-F3B	EF-623103	↑ FUSE SEMKO T 1.00A 250V [U,E,B,S]
3-F3C	EF-355226	↑ FUSE BET T 1.00A 250V [B]
3-F4A	EF-309392	↑ FUSE TSC 125V 1.25A [C,A]
3-F4B	EF-623103	↑ FUSE SEMKO T 1.00A 250V [U,E,V,S]
3-F4C	EF-355226	↑ FUSE BET T 1.00A 250V [B]
3-F5A	EF-310229	↑ FUSE TSC 125V 1.00A [C,A]
3-F5B	EF-623103	↑ FUSE SEMKO T 1.00A 250V [U,E,V,S]
3-F5C	EF-355226	⚠ FUSE BET T 1.00A 250V [B]

4. MAIN AMP PC BOARD

REF.		D WOOD INDICATE
NO.	PART NO.	DESCRIPTION
110.		
4 10 1	EX 255.05	A IC MESS 1D
4-IC1	EI-355697	⚠ IC M5221P
4-IC2	EI-345474	△ IC HA12002
4-TR1	ET-321016	TR FET 2SK117 GR,BL
4-TR2	ET-348835	TR 2SC2690 G,P
4-TR3	ET-348834	TR 2SA1220 Q,P
		TR 2SC2909 S,T
4-TR4	ET-348830	
4-TR5	ET-348830	TR 2SC2909 S,T
4-TR6	ET-348829	⚠ TR 2SA1209 S,T
4-TR7	ET-348831	⚠ TR 2SC2911 S,T
4-TR8	ET-348831	⚠ TR 2SC2911 S,T
	ET-348829	↑ TR 2SA1209 S,T
4-TR9		
4-TR10	ET-348830	TR 2SC2909 S,T
4-TR11	ET-348830	TR 2SC2909 S,T
4-TR12	ER-338244	TR 2SA1207 RS
4-D1	ED-324013	D ZENER H HZ20 2
4-D2	ED-324013	D ZENER H HZ20 2
4-D 3	ED-348990	D SILICON H DS446
4-D4	ED-346613	D ZENER H HZ11 C3
4-D5	ED-346613	D ZENER H HZ11 C3
4-D6	ED-348990	D SILICON H DS446
4-D7	ED-346603	D ZENER H HZ6 A1
	ED-340003	D DENDICH HEO INT
4-D8	***	D GW IGON II DG445
to 12	ED-301911	D SILICON H DS448
4-D13	ED-355437	⚠ D SILICON PB-102F
4-D14	ED-348990	D SILICON H DS446
4-D15	ED-348990	D SILICON H DS446
4-D16	ED-301911	D SILICON H DS448
		SW PUSH SPUJ34
4-SW1	ES-355429	
4-VR1	EV-380204	R S-FIX H SR19R 3P 0.15W 102
4-L1	EO-332116	COIL FIX 2 103AK-006A 2R2K
4-RL1	EQ-359532	RELAY POWER G5R2282P DC12V
4-R4A	ER-362240	R MF H 1/4W 105J [EXCEPT V]
		R MF H 1/4W 104J [V]
4-R4B	ER-338183	
4-R5	ER-359521	A ROMF H S20 FS 2W 332J
4-R8	ER-359521	⚠ R OMF H S20 FS 2W 332J
4-R9	ER-311760	R MF H 1/4W 1802F
4-R10	ER-311760	⚠ R MF H 1/4W 1802F
4-R15	ER-341331	⚠ R OMF H S15 FS 1W 181J
4-R16	ER-341331	↑ R OMF H S15 FS 1W 181J
4-R21	ER-333429	⚠ R CB H S10 FS RDS 1/4W 682J
4-R22	ER-333429	⚠ R CB H S10 FS RDS 1/4W 682J
4-R24	ER-325638	A R OMF H S15 FS 1W 271J
4-R27	ER-325638	⚠ R OMF H S15 FS 1W 271J
4-R 30	ER-322787	A R CB H S10 FS RDS 1/4W 100J
4-R31	ER-322787	⚠ R CB H S10 FS RDS 1/4W 100J
4-R 32	ER-333398	⚠ R CB H S10 FS RDS 1/4W 302J
4-R 33		
to 36	ER-333372	⚠ R CB H S10 FS RDS 1/4W 150J
		△ R CB H S10 FS RDS 1/4W 391J
4-R 37	ER-327197	A
4-R38	ER-345616	⚠ R CT W R33+R33 5W
4-R 39	ER-345616	⚠ R CT W R33+R33 5W
4-R50	ER-359520	A R OMF H S20 FS 2W 120J
4-R52	ER-359520	⚠ R OMF H S20 FS 2W 120J
4-R 65	ER-359521	↑ R OMF H S20 FS 2W 332J
4-R 68	ER-359823	R MF H 1/4W 203J
4-R70	ER-338187	R MF H 1/4W 153J
4-C1	EC-344155	C PP V F05 PP 181J 50DC
4-C2	EC-345655	C PP V F05 PP 223J 50DC
		C PP V F05 PP 203J 50DC [EXCEPT V]
4-C3A	EC-362238	C PP W FOR PP 0001 CODG [LACEL I V]
4-C3B	EC-359525	C PP V F05 PP 823J 50DC [V]
4-C4	EC-359829	C PP V F05 PP 151J 50DC
4-C5	EC-345656	C PP V F05 PP 473J 50DC
4-C9	EC-355461	C MY V MKT 334K 100DC
	EC-355460	C EC V SNP 103M 63.0DC
4-C12		
4-C13	EC-355460	C EC V SNP 103M 63.0DC

5. JACK PC BOARD

REF. NO.	PART NO.	DESCRIPTION
5-TR1	ET-308141	TR 2SC2603 G
5-TR2	ET-308141	TR 2SC2603 G
5-TR3	ET-308141	⚠ TR 2SC2603 G
5-TR4	ET-308141	⚠ TR 2SC2603 G
5-RL1	EQ-355458	RELAY SIG G2Q-187P-V 12V
5-R8	ER-324337	⚠ R CB H S10 FS RDS 1/4W 560J
5-R17	ER-322591	⚠ R CB H S10 FS RDS 1/4W 101J
5-R18	ER-322591	⚠ R CB H S10 FS RDS 1/4W 101J
5-J3 to 5	EJ-336915	PIN J AJC-054-ABB P 4P
5-J6	EJ-355459	PIN J Y KC21-0157 P 4P

6. SELECTOR PC BOARD

REF. NO.	PART NO.	DESCRIPTION
6-TR1 to 3	ET-349081	TR 2SC3383 S,T
6-D1	ED-354114	D LED BR5507S RED
6-D2	ED-355425	D LED BG-5725-B7 GREEN
6-D3	ED-355426	D LED PR-5705S-B7 RED
6-SW1	ES-355417	SW PUSH SPEA71 7 THROW
6-SW2	ES-355418	SW PUSH SPEA84 8 THROW
6-SW3	ES-348841	SW PUSH SPEA 12090A 04-2S
6-SW4	ES-345481	SW PUSH SPEA12089A 04-2N
6-SW 5	ES-348841	SW PUSH SPEA 12090A 04-2S
6-SW6	ES-345481	SW PUSH SPEA12089A 04-2N
6-IN1 to 7	EL-355435	PL LEAD 14.3V 80MA

7. SPEAKER SELECTOR PC BOARD

REF. NO.	PART NO.	DESCRIPTION
7-SW1 7-R1 7-R2	ER-306416	SW PUSH SPUL241 ⚠ R OMF H S20 FS 2W 271J ⚠ R OMF H S20 FS 2W 271J

8. SPEAKER IND PC BOARD

REF. NO.	PART NO.	DESCRIPTION
8-D1 to 4	ED-356424	D LED BG5525S GREEN

9. VOLUME PC BOARD

REF. NO.	PART NO.	DESCRIPTION
9-VR1	EV-355427	VR ROTARY RKGA20-250KBX2

10. HEAD PHONE PC BOARD

REF. NO.	PART NO.	DESCRIPTION
10-R1 10-J19		⚠ R OMF H FS 2W 431J PHONE J 3P HLJ0540 6.3

11. SPEAKER TERMINAL PC BOARD

(V ONLY)

REF. NO. DESCRIPTION

11-TM902 EJ-342935 TERMINAL W/SCREW YKD31-0132 P 8P [V]

12. FUSE PC BOARD

NO.	PART NO.	DESCRIPTION
	FUSE PC BC	DARD
12-L1	EO-338409	COIL LF FK0B160MH02 250UH [V]
	ASSEMBLY	
12-F1A	EF-690996	⚠ FUSE SEMKO T 4.00A 250V [U]
12-F1B	EF-345658	↑ FUSE TSC 125V 8.00A [C,A]
12-F1C	EF-690996	⚠ FUSE SEMKO T 4.00A 250V [E,V,S]
12-F1D	EF-359086	⚠ FUSE BET T 4.00A 250V [B]
12-F2	EF-690996	⚠ FUSE SEMKO T 4.00A 250V [U]

13. ASSEMBLY BLOCK

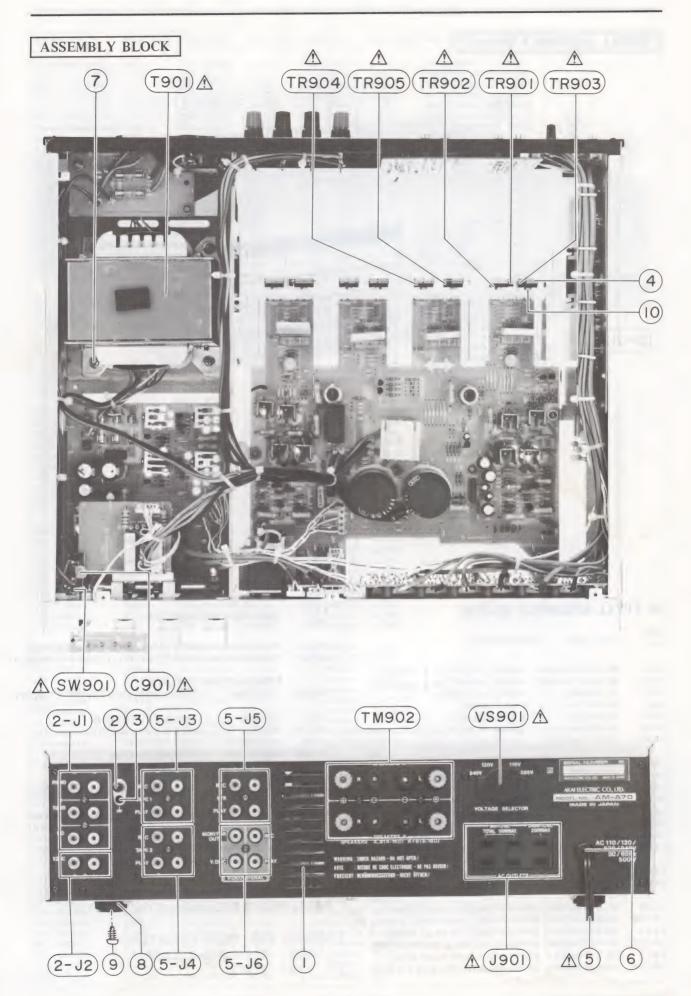
REF. NO.	PART NO.	DESCRIPTION
	ASSEMBLY	DI OCK
1214		PANEL REAR AM-A70 (U)
13-1A	SP-350004A	PANEL REAR AM-A70 (A,C)
13-1B		PANEL REAR AM-A70 (A,C) PANEL REAR AM-A70 (E)
13-1C	SP-358664C	PANEL RERR AM-A70 (E) PANEL RERR AM-A70 (B,S)
13-1D		PANEL REAR AM-A70 (B,S) PANEL REAR AM-A70 (V)
13-1E	SP-358664J	TERMIANL W/SCREW UB-0067 L 1P
1 3-2	EJ-329610	T2BR30×06STL BZN PROJECTION
13-3		TRANSISTOR SUPPORT BFG-20T0-3P
13-4	EZ-345459	△ AC CORD 2 CORES VM-0129A, VFF U/T
13-5A	EW-374894	AC CORD 2 CORES VM-0129A, VFF 0/1
12 #P	EW 240425	L 2
13-5B	EW-349427	△ AC CORD 2 CORES KP-8W, SPT-2 UC [C,A]
10.50	EW 245005	
13-5C	EW-347897	
	E111 0 4 < 0 40	[E,V]
13-5D		A AC CORD 2 CORES LCFL2×0.75 B [B]
13-5E	EW-338517	
13-6	EZ-631945	STRAIN RELIEF SR-4N-4
13-7	ZS-345624	ST PAN40×08STL CMT CUP [POWER TRANS FIX]
	GA 212465	
13-8	SA-312465	FOOT CIRCULAR (A) PART CA T2BR30x06STL CMT [FOOT FIX]
13-9	ZS-325495	SCREW TRANSISTOR (B)
13-10	ZS-345436B	↑ TRANS POWER AM-A70T-70 (U)
	BT-355408	↑ TRANS POWER AM-A70T-70 (C)
	BT-355409	↑ TRANS POWER AM-A70T-30 (C,A)
	BT-355411 BT-355412	↑ TRANS POWER AM-A70T-50 (B,S)
	BT-361998	↑ TRANS POWER AM-A70T-60(V)
	ET-355782	↑ TR 2SD1247 T,U
	ET-348857	⚠ TR 2SC2581 O,Y
	BET-348857	⚠ TR 2SC2581 O,Y
	ET-348856	↑ TR 2SA1106 O,Y
	ET-348856	↑ TR 2SA1106 O,Y
	ES-349070	↑ SW SELECTOR YKS11-0002 02-4 [U]
	ES-349070 ES-355407	A SW PUSH ESB-99713V TV-8
	EJ-337407	A SOCKET OUTLET S2T733T164 JUC
13-1901A	EJ-33/403	3×2P [U]
12 IOO 1 P	EJ-352642	A SOCKET OUTLET S2T733T114T [C,A]
13-3901B	A EL 337404	TERMINAL W/SCREW ANB-024-AAA S
13-1 M90.	2A E3-337400	8P [U,C,A,E,B,S]
1.2 TM00:	1D EI 2/2025	TERMINAL W/SCREW YKD 31-0132 P
13-1 M90.	2D E3-342933	8P [V]
13-C001	FC-320548	⚠ C CE V F 103Z 250AC [U]
13-C901F	R FC-338411	⚠ C CE V FZ 103P 400AC [C,A,E,B,V,S]
13-07011	, LC-330411	
	DDE AMP DO	RORAD

PRE AMP PC BORAD

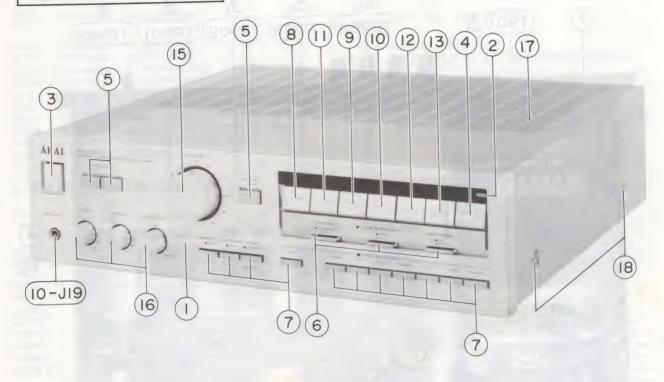
2-J1	EJ-337404	PIN	J	AJC-052-ABB	Р	6P	
2-J2	EJ-337424	PIN	J	AJC-034-ABB	P	2 P	

JACK PC BOARD

	JACK IC D	UAKD
5-J3	EJ-336915	PIN J AJC-054-ABB P 4
5-J4	EJ-336915	PIN J AJC-054-ABB P 41
5-J5	EJ-336915	PIN J AJC-054-ABB P 4
E 1/	EL 255450	DIN I VICOL OLET D AD



FINAL ASSEMBLY BLOCK



14. FINAL ASSEMBLY BLOCK

REF. NO.	PART NO.	DESCRIPTION
14-1	BD-A2037A060H	B PANEL FRONT BLK AM-A70
14-1B	BD-A2037A060I	PANEL FRONT BLK AM-A70-B
14-2	SE-358656	WINDOW FILTER
14-3	SK-345231A	CAP POWER
14-3B	SK-345231C	CAP POWER-B
14-4	SK-B358655A7	KNOB PUSH (D-13) PART (PHONO)
14-4B	SK-B358655B7	KNOB PUSH (D-14) B PART (PHONO
14-5	SK-358649A	KNOB PUSH (A)
14-5B	SK-358649B	KNOB PUSH (A)-B
14-56	SK-358651A	KNOB PUSH (B)
14-6B	SK-358651B	KNOB PUSH(B)-B
14-05	SK-358653A	KNOB PUSH (C)
14-7B	SK-358653B	KNOB PUSH (C)-B
14-8	SK-B358655A1	KNOB PUSH (D-1) PART (V, DISC)
14-8B	SK-B358655B1	KNOB PUSH (D-2) B PART (V.
14-0D	SIL BOUGGE = 1	DISC-B)
14-9	SK-B358655A2	KNOB PUSH (D-3) PART (TAPE 1)
14-9B	SK-B358655B2	KNOB PUSH (D-4) B PART (TAPE
14-75	DI Docoure	1-B)
14-10	SK-B358655A3	KNOB PUSH (D-5) PART (TPAE 2)
14-10B	SK-B358655B3	KNOB PUSH (D-6)B PART (TAPE 2-B)
14-11	SK-B358655A4	KNOB PUSH (D-7) PART (VTR)
14-11B	SK-B358655B4	KNOB PUSH (D-8)B PART (VTR-B)
14-12	SK-B358655A5	KNOB PUSH (D-9) PART (CD)
14-12B	SK-B358655B5	KNOB PUSH (D-10)B PART (CD-B)

	REF. NO.	PART NO. DESCRIPTION
	14-13 14-13B	SK-B358655A6 KNOB PUSH (D-11) PART (TUNER) SK-B358655B6 KNOB PUSH (D-12)B PART (TUNER-B)
		FINAL ASSEMBLY BLOCK
	14-14x	ZS-447840 T2BR30x08STL CMT [PANEL FRONT FIX]
	14-15	SK-358657A KNOB MAIN VOLUME
	14-15B	SK-358657B KNOB MAIN VOLUME-B
	14-16	SK-358658A KNOB VOLUME
	14-16B	SK-358658B KNOB VOLUME-B
	14-17	SP-358673A COVER UPPER
	14-17B	SP-358673B COVER UPPER-B
	14-18	ZS-322570 ST BID40×08STL NI3 [COVER UPPER FIX]
	14-18B	ZS-322580 ST BID40x08STL BNI [COVER UPPER FIX]
		HEAD PHONE PC BOARD
	10-J19	
	NOTE:	
	PANEL	FRONT BLK consists of 14-2 to 14-13B.
	SYMBO	OL FOR COLOR VARIATION
		: STANDARD COLOR
l	E	B: BLACK

INDEX

PART NO.	REF. NO.	PART NO.	REF. NO.	PART NO.	REF. NO.	PART NO.	REF. NO.	PART NO.	REF. NO
BA-A2037A020A BA-A2037A020B BA-A2037A040C BA-A2037A040D BA-A2037A040F BA-A2038A030A BA-A2038A030B BA-A2038A030C BA-A2038A030D BD-A2037A060B	1-1B 1-2A 1-2C 1-2B 1-3A 1-3B 1-3C 1-3D	EF-345658 EF-355226 EF-355226 EF-355226 EF-359086 EF-623103 EF-623103 EF-623103 EF-690996	3-F5C 12-F1D 3-F3B 3-F4B 3-F5B	ER-359521 ER-359521 ER-359521 ER-359524 ER-359824 ER-359823 ER-359823 ER-359823 ER-359824 ER-359825	4-R 5 4-R 8 4-R 65 2-R 43 2-R 46 3-R 19 3-R 20 4-R 68 3-R 30 2-R 8	SE-358656 SK-B358655A SK-B358655A SK-B358655A SK-B358655A SK-B358655A SK-B358655A SK-B358655B SK-B358655B	2 14-9 3 14-10 4 14-11 5 14-12 6 14-13 7 14-4 1 14-8B	-	
BD-A2037A006D BT-355408 BT-355409 BT-355411 BT-355412 BT-361998 EC-201639 EC-201639 EC-320548 EC-338411	14-1B 13-T901A 13-T901B 13-T901C 13-T901D 13-T901E 3-C8 3-C9 13-C901A 13-C901B	EF-690996 EI-344764 EI-345474 EI-355697 EI-355697 EJ-329610 EJ-336915 EJ-336915 EJ-337404	12-F2 3-IC1 4-IC2 2-IC1 4-IC1 13-2 5-J3 5-J4 5-J5 2-J1	ER-359825 ER-359826 ER-359826 ER-362240 ER-557583 ES-345481 ES-345841 ES-348841 ES-348841 ES-349070	2-R5 3-R22 3-R23 4-R4A 10-R1 6-SW4 6-SW6 6-SW3 6-SW5 13-VS901	SK-B358655B; SK-B358655B; SK-B358655B; SK-B358655B; SK-345231A SK-345231C SK-358649A SK-358649B SK-358651A	4 14-11B 5 14-12B 6 14-13B		
EC-343892 EC-343917 EC-344155 EC-345655 EC-345656 EC-345656 EC-345656 EC-349083 EC-350675 EC-350745	2-C4 2-C6 4-C1 4-C2 2-C8 4-C5 2-C1A 2-C1B 2-C2 2-C3	EJ-337405 EJ-337406 EJ-337424 EJ-342935 EJ-342935 EJ-348846 EJ-3552642 EJ-355459 EL-355435	13-J901A 13-TM902A 2-J2 11-TM902 13-TM902B 10-J19 13-J901B 5-J6 6-IN1 to 7	ES-355418 ES-355429	13-SW901 6-SW1 6-SW2 4-SW1 7-SW1 5-TR1 to 4 3-TR9 4-TR1 3-TR1	SK-358651B SK-358653A SK-358653B SK-358657A SK-358657B SK-358658B SK-358658B SP-358664A SP-358664B SP-358664C	14-6B 14-7 14-7B 14-15 14-15 14-16 14-16B 13-1A 13-1B 13-1C		
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